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IN THE CLAIMS

Please amend the claims as follows. This listing replaces all prior versions.

1. (Currently amended) An isolated polynucleotide encoding ~~DsrA~~ a full length ducreyi serum resistance A (DsrA) protein, the polynucleotide selected from the group consisting of:

(a) DNA having the nucleotide sequence of **SEQ ID NO:1**;

(b) DNA having the nucleotide sequence selected from the group consisting of **SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, and SEQ ID NO:17**;

(c) polynucleotides that hybridize to DNA of (a) or (b) above under stringent conditions as exemplified by a wash stringency of 50% Formamide with 5x Denhardt's solution, 0.5% SDS and 1x SSPE at 42°C and which encode a full length DsrA; and

(d) polynucleotides that differ from the DNA of (a) or (b) or (c) above due to the degeneracy of the genetic code[[.]] and that encode a full length DsrA ~~encoded by a DNA of (a) or (b) above~~.

2. (Canceled).

3. (Currently amended) An isolated polynucleotide that encodes DsrA, wherein the DsrA has the amino acid sequence ~~given herein as of~~ **SEQ ID NO:2**.

4. (Canceled).

5. (Currently amended) ~~An~~ The isolated polynucleotide according to Claim 1 which is a DNA having the nucleotide sequence ~~given herein as of~~ **SEQ ID NO:1**.

6-7. (Canceled).

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8. (Currently amended) An expression vector comprising athe polynucleotide according to Claim 1.
9. (Currently amended) A cell containing anthe expression vector ~~according to~~ Claim 8.
- 10-13. (Canceled).
14. (Currently amended) An isolated antisense oligonucleotide complementary to athe polynucleotide of Claim 1 and having a length sufficient to hybridize thereto under physiological conditions.
15. (Currently amended) A An isolated DNA encoding anthe antisense oligonucleotide of Claim 14.
16. (Currently amended) An expression vector comprising anthe antisense oligonucleotide ~~according to~~ Claim 14.
17. (Currently amended) A method for producing a protein comprising the amino acid sequence selected from the group consisting of **SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, and SEQ ID NO:18**, or a fragment thereof, comprising:
- (a) culturing a host cell containing an expression vector containing at least a fragment of a polynucleotide sequence encoding DsrA under conditions suitable for the expression of the protein; and
 - (b) recovering the protein from the host cell culture.
18. (Currently amended) A method for detecting a polynucleotide which encodes DsrA in a biological sample, comprising:

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(a) ~~hybridizing~~contacting the complete complement of the polynucleotide sequence ~~which encodes a polynucleotide~~ selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, and SEQ ID NO:17 ~~to nucleic acid material of a~~with the biological sample, thereby forming a hybridization complex under conditions whereby a nucleic acid hybridization complex can form if a polynucleotide which encodes DsrA is present in the biological sample; and

(b) detecting the hybridization complex, ~~wherein~~whereby the presence of the hybridization complex ~~correlates with~~detects the presence of ~~at~~the polynucleotide ~~encoding~~which encodes DsrA in the biological sample.

19-22. (Canceled).

23. (Currently amended) A ~~vaccine~~ composition comprising ~~a~~the polynucleotide of Claim 1 in a pharmaceutically acceptable carrier.

24. (Currently amended) A ~~vaccine~~The composition according to Claim 23 wherein the polynucleotide has the nucleotide sequence of SEQ ID NO:1.

25. (Currently amended) A ~~vaccine~~ composition comprising ~~a~~the expression vector of Claim 8 in a pharmaceutically acceptable carrier.

26-28. (Canceled).